

# Study of validation of the Portuguese version of the inventory «Experiences in Close Relationships»<sup>1</sup>

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## Abstract

The ‘Experiences in Close Relationships Inventory’ permits to evaluate attachment in close relationships during adulthood based on two dimensions able to be present in this kind of relationships: the avoidance of proximity and the anxiety related with to abandonment. It is a self-report 7- points *likert* scale composed by 36 items. The Portuguese version was administered to a sample of 551 university students (60% female), the majority with ages between 19 and 24 years old (88%) in a dating relationship (86%). The principal components analysis with *oblimin* rotation was performed. The total scale has good internal consistency ( $\alpha=.86$ ), as also has the 2 subscales: anxiety ( $\alpha=.86$ ) and avoidance ( $\alpha=.88$ ). The two dimensions evaluated are significantly correlated with socio-demographics, relational characteristics (jealousy, relationship distress, and compromise), wishes (enmeshment versus differentiation) and fears (abandonment versus control) related to *attitudes in significant relationships*, which testify the construct validity of the instrument. The results obtained are coherent with the original version and other ECR’s adaptations. Practitioners and researchers in the context of clinical psychology and related areas have now at their disposal the Portuguese version of the ECR inventory, which has shown its very high usefulness in the study of close relationships, and specifically attachment in adulthood.

**Keywords:** Attachment, Portuguese, psychometric scales, intimate relationships

Estudo de validação da versão portuguesa do inventário «Experiences in Close Relationships»

## Resumo

O inventário ‘*Experiences in Close Relationships*’ permite avaliar a vinculação nas relações íntimas durante a idade adulta com base em duas dimensões susceptíveis de estarem presentes neste tipo de relacionamento: o evitamento da proximidade e a ansiedade relativa ao abandono. É uma medida de auto-relato com 36 itens e 7 categorias de resposta tipo *likert*. A versão portuguesa do ECR foi administrada a uma amostra de 551 estudantes universitários (60% do sexo feminino), na sua maioria com idades compreendidas entre 19 e 24 anos (88%), e actualmente numa relação do tipo namoro (86%). Realizou-se a análise dos componentes principais e aplicou-se a rotação *oblimin*. Os valores de consistência interna para a escala total são elevados ( $\alpha=.86$ ),

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assim como para as duas sub-escalas: evitamento ( $\alpha=.88$ ) e ansiedade ( $\alpha=.86$ ). As dimensões avaliadas pelo inventário correlacionam-se significativamente com variáveis sócio-demográficas, componentes relacionais (compromisso, ciúme, mal-estar relacional), desejos (emaranhamento *versus* diferenciação) e medos (abandono *versus* controlo) subjacentes às atitudes com relações significativas, que confirmam a validade de construto do instrumento. Os resultados obtidos para a amostra em estudo são coerentes com a versão original e outras adaptações do ECR. Investigadores e práticos no âmbito da psicologia clínica e áreas afins têm agora à sua disposição a versão portuguesa do inventário ECR para o estudo das relações íntimas, em particular a determinação das dimensões de vinculação na idade adulta.

**Palavras Chave:** Vinculação, validação portuguesa, escalas psicométricas, relações íntimas

### Validation portugaise de l'inventaire «Experiences in Close Relationships»

#### Résumé

L'inventaire '*Experiences in Close Relationships*' permet évalué l'attachement dans le rapport intime durant l'âge adulte se basent en deux dimension susceptible d'être présentes dans ce genre de rapport: l'évitement de la proximité e l'anxiété relative a l'abondons. C'est une mesure d'auto-rapport avec 36 items et 7 catégories de réponse tipe *likert*. La version portugaise de l'ECR a été administré a 551 élèves universitaires (60% du sexe féminin), dans sa majorité avec ages comprises entre 19 et 24 ans (88%), et actuellement dans une relation du pré marital (86%). On a réalisé l'analyse des composants principaux et appliqué la rotation *oblimin*. Les valeurs de consistance interne pour l'échelle total sont élevés ( $\alpha=.86$ ), ainsi comme pour les deux sous échelles: évitement ( $\alpha=.88$ ) et anxiété ( $\alpha=.86$ ). Les dimension évalués par l'inventaire se corrélationalnels significativement avec variables sociodémographiques, composants relationnel (compromis, jaloux, mal-être dans le rapport), désires (dépendance *versus* différenciation) e peurs (abandons *versus* contrôle) associés aux attitudes avec relations significatives, qui confirme la validité de construction de l'instrument. Les résultats obtenus pour l'échantillon en étude sont d'accord avec la version original et autres adaptations de l'ECR. Investigateurs et pratiques de la psychologie clinique et domaines affins ont maintenant a sa disposition la version portugaise de l'inventaire ECR pour l'étude de rapport intime, en particulier la détermination des dimensions de l'attachement en l'âge adulte.

**Mots Clés:** Attachement, validation portugaise, rapport intime, échelles psychométriques

The study of romantic relationships had assisted to a significant increase in the last two decades of twentieth century, with almost the theorists emphasising the key role provided by attachment theory (Ainsworth, 1989, Bowlby, 1985; Hazan & Shaver, 1987). The advances in comprehension of attachment processes (cognitive, behavioural and emotional) underlying romantic relationships had also allowed the development of great diversity of methodologies and tools to evaluate them (Crowell, Fraley, & Shaver, 2008; Feeney, 2008). One of the most valuable and reported instrument to evaluate attachment dimensions in romantic partner is the Experiences in Close Relationships (Brennan, Clark, & Shaver, 1998), which had been adapted to many languages and cultures. This study was designed to determine the evidences for the reliability and validity of the Portuguese version of ECR.

The theoretical conceptualization of this article comprises three principal themes. It begins with:

i) *The conceptualization of romantic love as an attachment process* – where we present a review of the core premises of attachment theory applied to romantic love and examine the main differences between infant and adult processes;

ii) *Individual differences* – here we explain individual differences and the concept of internal working models associated with attachment dimensions. According with this, specify the types of models of attachment dimensions and the main classes of methodologies associated with them, and finally;

iii) *The processes and outcomes in intimate relationships resulting from attachment dimensions*- describing the mechanisms of choice, maintenance and dissolution of relationships associated with attachment, adding also mediating variables.

#### *i) Romantic love as an attachment process*

The investigation in the scope of intimate relationships had begun with the pioneer work of Hazan and Shaver (1987) that conceptualized the romantic love as an attachment process (Shaver, Hazan, & Bradshaw, 1988). Supporting this theory there are four core premises that both help resemble and distinguish conjugal relationships from the infant-caregiver attachment processes (for a further reading, Feeney, 2008; Fraley & Shaver, 2000). In terms of similar aspects: a) attachment in adulthood and in infancy shared the same biological system, the activation and cessation conditions and

exhibited the same dynamics; b) the individual differences in adulthood resulted from the expectancies and beliefs developed during early interactions and share the same types; and finally, c) internal working models uphold the continuity of individual differences on attachment patterns, and have a role in intimate relationships' outcomes. The main divergent aspects mentioned by Fraley e Shaver (2000) are related to the role reciprocity of the attachment system and caregiver dynamics, its sexual nature, and the integration of three social behavioural systems<sup>5</sup> - attachment, experiences of care, and sexual coupling, reinforcing the perspective of Hazan and Shaver (1987). According with these authors romantic love can be comprehended in terms of the mutual functioning of those behavioural systems, though each one with a different function and playing a role more or less meaningful in the developmental trajectory of intimate relationships. Hazan and Zeifman (1999) proposed a model of formation of attachment in adulthood similar to that suggested by Bowlby, strengthening that the processes can vary attending to internal models of each element of the dyad, a model that gained support for other researchers (Trebourg, Crowell, & Waters, 2004)

In adulthood, the behaviour of looking for help or support (e.g., expressing distress, looking for comfort or assistance in times of need), refers to a behavioural manifestation of the attachment system, and the existence and accessibility of an attachment figure (that serves as a *safe haven* in times of need) is associated to emotional wellness (Collins & Feeney, 2000; Feeney, 2008; Feeney & Collins, 2004), making possible the establishment of a conjugal bond. Thus, marital relationships and other significant romantic relationships accomplish the criteria of attachment behaviours, because adults look for the proximity of the partner, experience emotional distress if the partner is not accessible, build up confidence and security from this relationship and looking for the partner in times of distress and threat (Ainsworth, 1989; Feeney & Collins, 2004; Mikulincer & Shaver, 2007; Shaver et al., 1988).

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<sup>5</sup> Obviously the organization of these systems in a certain person reflects the experiences in attachment relationships and has underlying an ethological function of procreation and protection of the species.

## *ii) Individual differences*

Ainsworth, Blehar, Waters and Wall (1978) considering differences in the way the individuals cope with the anxiety associated with non-optimal interactions and regulate the security feelings, that reflect the distinct “*internal working models*” (IWM), of the self (as worth or not of love and support) and the other (as being or not responsive) built in previous experiences with significant ones (Bowlby, 1973; Bretherton, 1990; Cassidy, 2000; Main, Kaplan, & Cassidy, 1985). These models determine the dynamics of intimate relationships in adulthood (Ainsworth et al., 1978; Bowlby, 1973; Feeney, 2008; Shaver et al., 1988), since the choice of the partner, maintenance and rupture of the relationship.

In the same way, Shaver and col. (1988) defend that “*internal working models*” continue to guide and determine behaviour with significant figures across the life span. While people build new relationships, they are guided by previous expectations about the way others behave and feel toward them, and use those models to infer the behaviours or intentions of the partners. Attachment theory explains the continuity in interaction patterns with significant others across the life span, and suggest that the previous experiences of care has a significant influence, at least in a part, in the patterns of relationship in adulthood with the partner as also its possible revision (Cassidy, 2000; Crowell et al., 2008; Fraley & Shaver, 2000; Treboux, Crowell, & Waters, 2004).

When Hazan and Shaver (1987) began the study of attachment in adulthood, adopted the three categories defended by Ainsworth and col. (1978), as a frame of reference to organize the individual differences in the way the adults, think, feel, and behave in romantic relationships. These three qualitatively independent and distinct patterns of attachment (secure, anxious-ambivalent, and avoidant) were described as brief mutually exclusive questions about romantic relationships. Its reduced design associated with a scarce fidelity of the proposed instrument was subject to some criticisms, notwithstanding their precious contribute to the development of other measures (e.g., Collins & Read, 1990; Levy & Davis, 1988; Simpson, 1990).

Bartholomew for example, notices that avoidant pattern, as was described by Hazan and Shaver, includes two theoretically different ways of avoidance that they denominate as “*fearful*” and “*dismissing*” (Bartholomew, 1990; Bartholomew & Horowitz, 1991). According to the defence strategies shown by avoidant individuals,

acknowledge that some of them adopt an avoidant orientation in attachment relationships to prevent being hurt or rejected by the partners (*fearful*), while others adopt the same orientation as a way of maintaining a defensive sense of self-reliance and independence (*dismissing*). Resulting from this distinction they build a tetra-categorical model, in which Bartholomew maintains the classification suggested by Hazan and Shaver (1987), but splits the avoidant category in avoidant-fearful and avoidant-dismissing (this last, based on a similar category in the Adult Attachment Interview; see Main, Kaplan, & Cassidy, 1985, for a review). Moreover, adding the disposition of these categories in a bi-dimensional space defined by the positive or negative value of the representational models of self (*anxiety*) or other (*avoidance*) (see also Bartholomew & Shaver, 1998, for overviews). Consequently, from this combination results the four styles of attachment: secure, preoccupied, dismissing and fearful. Currently, this model is receiving some important remarks specifically about the independent structure of the model of self and others, and the qualitatively distinct aspects of these models underlying the known four styles (Feeney, Noller, & Hahran, 1994b; Ross, McKim, & DiTommaso, 2006).

Besides the positivity or negativity associated with models of self and models of other and its combination into a four styles of attachment, it has been valued the underlying dimensions in terms of emotional and behavioural regulation<sup>6</sup> - anxiety and avoidance (Brennan et al., 1998; Fraley & Waller, 1998).

Attending to this state of the art, Brennan and col. (1998) exhaustively revised literature, and gathered more than 320 items collected from different questionnaires and models, with the aim of exploring the similarities and the differences between different referential frames and methodologies, and developed an inventory composed by the most relevant items. These authors concluded that the individual differences in terms of attachment can be organized in function of a bi-dimensional space, with two major functions: *anxiety* or vigilance about the rejection and abandonment and *avoidance* that corresponds to the discomfort with the closeness or dependency and the reluctance to be intimate with others.

Despite Brennan and col. (1998) did not consider a prototypical approach to measurement of adult attachment, provided strong evidences regarding *anxiety* dimension and Bartholomew's model of self and, *avoidance* dimension and others

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<sup>6</sup> Although the controversial discussion regarding this issue (see Fraley & Waller, 2000), for the purpose of this study we consider the last formulation.

model. Considering the individual differences in attachment, individuals with a *secure* attachment style presented both, low anxiety and low avoidance scores: feel comfortable with intimacy, trust in others to support and believe they have self-worth. The subjects with *preoccupied* style (*anxious-ambivalent*) are identified by high anxiety and low avoidance scores: revealed strong desire of intimacy and dependency and at same time that a great preoccupation with the rejection. Individuals with *avoidant-dismissing* style have low anxiety and high avoidance scores: have a tendency to depreciate the importance of the intimate relationships and value independency and self-reliance. The persons with an *avoidant-fearful* style presented an elevation in both attachment dimensions scores: although desiring an intimate relationship and the approval of others they tend to avoid intimacy due to fear of rejection (Bartholomew & Shaver, 1998; Collins & Feeney, 2000).

In general, several types of *methodologies* had been employed in the study of attachment in adulthood, in particular concerning romantic relationships which consider each author's theoretical orientation and the objectives of their studies (see Bartholomew & Shaver, 1998; Feeney, 2008; for a further explanation of this issue), for example: attending to the report of the partner (Kobak & Hazan, 1991), diary registers (Feeney, Noller, & Callan, 1994), observational studies (Simpson et al., 1996), interviews (Bartholomew & Horowitz, 1991, Crowell, 1990; George, Kaplan, & Main, 1985) and self-reports (Bartholomew, 1990; Brennan et al., 1998; Collins & Read, 1990; Feeney et al., 1994b, Fraley, Brennan, & Waller, 2000; Hazan & Shaver, 1987; Simpson, 1990; Simpson, Rholes & Nelligan, 1992). However, many of those methodologies present some controversial issues specifically in terms of standardization of the studied constructs, that had justified the development of a more comprehensible, a largely applied instrument, which seems to have a clear structure such as ECR.

### *iii) Processes and outcomes in intimate relationships*

Some evidences suggest that individual's choose a partner that confirms the beliefs they have about the attachment relationships (Brennan & Shaver, 1995; Collins & Read, 1990; Frazier, Byer, Fischer, Wright, & DeBord, 1996; Holmes & Johnson, 2009; Kirkpatrick & Davis, 1994; Klohnen & Luo, 2003; Tolamcz, Goldzweig, &

Guttman, 2004). For example, those with a secure attachment style tend to be pairing with secure individuals. Among the insecure ones, the more common type of pairing are avoidant with anxious individuals for whose, the differences in terms of expectancies about the relationship are mutually confirmed.

The studies are consensual to consider that more destructive behaviours, associated with conflict are related to the insecure attachment styles, specifically to anxious-ambivalent (Feeney, 1994; 1999; Feeney et al., 1994a; Kobak & Hazan, 1991; Pistole & Arricale, 2003; Simpson, Rholes & Philips, 1996). Other authors associate the insecure attachment styles with high anxious preoccupation and the fearful avoidance to conjugal violence, as a function of the negative emotions and destructive responses to conflictive interactions (Bartholomew, 1990; Bookwala & Zdaniu, 1998; Creasey, 2002; Dumas, Pearson, Elgin, & McKinley, 2008; Godbout, Dutton, Lussier, Sabourin, 2009; Gormley & Lopez, 2010; Henderson, Bartholomew, Trinke, & Kwong, 2005; Holtzworth-Munroe, Stuart & Hutchinson, 1997; Roberts & Noller, 1998). In effect, individuals with secure orientation exhibit more intimacy (Bartholomew & Horowitz, 1991), more commitment and longer relationships (Collins & Read, 1990; Duemmler & Kobak, 2001; Feeney & Noller, 1992; Hazan & Shaver, 1987) when compared to the subjects with insecure representations.

Acknowledged about the current state of the art, the diversity of evaluation methodologies of attachment processes, its limitations and advantages, and the importance of a standardized measure adapted to Portuguese context, it is our major goal to study the psychometric properties of the Portuguese version of ECR.

In the next sections we will explore ECR's internal and external validity - and at the end, the relationship of this instrument with individual (i.e., attitudes about significant relationships) and relational variables (i.e., conflict, communication problems, dominance, relationship distress, jealous, and commitment) theoretically relevant to demonstrate its external validity.

Furthermore, it's our purpose to make a contribution to the systematic comprehension of internal and external processes related with romantic attachment in early adulthood.



## Instrument

*Description.* The ‘Experiences in Close Relationships Inventory’ (ECR, Brennan et al., 1998) permits assessing attachment in close relationships during adulthood based on two dimensions able to be present in this kind of relationships: the avoidance of proximity and the anxiety related to abandonment. It is a self-report 7-point *likert* scale composed by 36 items. Its concise structure facilitates the answer in a short period of time, nearly 10 minutes.

The items that compose the ECR are presented in table 1. Attending to the original version, the items that correspond to each dimensions evaluated are presented in a spin order; the items with a pair number correspond to anxiety and the items with an odd number to avoidance scale.

*Translation, retroversion, and semantic analysis of the items.* This version is based on Portuguese spoken and written in Portugal. The instrument was translated to Portuguese by a bilingual psychologist, and was performed a pilot study. Twelve undergraduates are inquired about the comprehension and semantic difficulty of the items, as a way of approaching this translation to the target dimensions evaluated by the instrument.

Table 1. Portuguese version of Experiences in Close Relationships Inventory

N <sup>er</sup>	Item
1	Prefiro não mostrar ao meu companheiro(a) como me sinto no meu íntimo
2	Preocupa-me ser abandonada(o)
3r	Sinto-me muito à vontade em ser íntima(o) com o meu companheiro(a)
4	Preocupo-me muito com as minhas relações afectivas
5	Dou por mim a afastar-me no momento em que o meu companheiro(a) começa a tornar-se íntimo
6	Preocupa-me que o meu companheiro(a) não se preocupe tanto comigo como eu me preocupo com ele(a)
7	Sinto-me desconfortável quando o meu companheiro(a) quer ser muito íntimo(a)
8	Preocupo-me bastante com a possibilidade de perder o meu companheiro(a)
9	Não me sinto à vontade ao “abrir-me” com o meu companheiro(a)
10	Desejo muitas vezes que os sentimentos do meu companheiro(a) por mim sejam tão fortes como os meus sentimentos por ele(a)
11	Quero tornar-me próxima(o) do meu companheiro(a), mas estou sempre a afastar-me
12	Muitas vezes quero fundir-me totalmente com o meu companheiro (a) e isso afasta-o (a) de mim
13	Fico nervosa(o) quando o meu companheiro (a) se torna demasiado próximo de mim
14	Preocupa-me estar sozinha(o)
15r	Sinto-me à vontade em partilhar pensamentos e sentimentos mais íntimos com o meu companheiro(a)
16	O meu desejo de estar muito próxima(o), algumas vezes afasta as pessoas
17	Tento evitar tornar-me demasiado próxima(o) do meu companheiro(a)
18	Preciso de muitas provas de que sou amada(o) pelo meu companheiro(a)
19r	Sinto que é relativamente fácil tornar-me próxima(o) do meu companheiro(a)
20	Algumas vezes sinto que forço o meu companheiro (a) a mostrar mais sentimentos, mais compromissos
21	Acho difícil permitir-me depender do meu companheiro (a)
22r	Ser abandonada(o) não me preocupa muitas vezes
23	Prefiro não ser demasiado íntimo(a) com o meu companheiro (a)
24	Fico transtornada(o) ou zangada (o) se não consigo que o meu companheiro(a) mostre interesse por mim
25r	Conto praticamente tudo ao meu companheiro(a)
26	Acho que o meu companheiro (a) não quer tornar-se tão íntimo (a) como eu gostaria
27r	Costumo falar dos meus problemas e preocupações ao meu companheiro(a)
28	Sinto-me um pouco ansiosa(o) e insegura(o) quando não estou envolvida(o) numa relação
29r	Sinto-me confortável ao depender do meu companheiro(a)
30	Fico frustrada(o) quando o meu companheiro(a) não está comigo tanto tempo como eu gostaria
31r	Não me importo de pedir conforto, conselhos ou ajuda ao meu companheiro (a)
32	Fico frustrada(o) se o meu companheiro (a) não está disponível quando preciso dele (a)
33r	Ajuda-me poder contar com o meu companheiro(a) nas situações difíceis
34	Sinto-me muito mal comigo mesma(o) quando o meu companheiro (a) me desaprova
35r	Recorro ao meu companheiro(a) para muitas coisas, incluindo conforto e segurança
36	Fico ressentida(o) quando o meu companheiro(a) passa tempo longe de mim

r= reverted item

## Methodology

### *Sample*

*Social-demographics data.* The Portuguese version of ECR was administered to a sample of 551 university students (60.3% females). The age of the majority of the participants was comprehended between 19 and 24 years old (87.6%) [with 1.5% reporting 18 years old and the rest older than 25 years old (10.9%)]. A great percentage of the respondents frequented the second or third years in university (86.5%) [only a small number is freshman (1.5%), and the remaining are senior (12.0%)]. Considering the subject's family income (in euros per month), 38% reported an income range between 600 € and 1200 €, 1/5 of the respondents lived with the minimal national salary (600€ or less) [for the remaining participants, 20.2% considered to live with 1200 € to 1800€, 10.4% assumed a range between 1.800€ and 2400€ and the odd 11.4% more than 2400 €].

*Characteristics of intimate relationship.* Considering the duration of more recent relationship, more than 4/5 subjects (85.7%) having or having had a relationship during more than one month in the year previous to the answer to questionnaire. More than half of the participants (60%) presented a relationship with a duration length equal or superior to a month, 26% reported that “*presently have no relationship, but had had in the past*” and 14% admitted “*never having a relationship that lasted more than one month*”. At the moment of the answer to the questionnaire, a great percentage of subjects (69%) continued in the relationship. Considering the length of the more recent relationship with a partner, 41.5% confirmed a two years or more duration [for 19.0% it ranged between 1 and 2 years, for 24% the length was less than one year, with the residual 15% less than 3 months length]. For those participants that finished the relationship (31%), regarding the time occurred since the relationship break up 12.2% considered it finished 1 year ago or more [6.7% reported that the relationship had finished 1 or 2 months ago, 3.9% at 3 to 5 months before, 8.2% at 6-12 months ago).

Considering the type of the more recent relationship, the great majority (84.7%) had an engaged dating relationship, 8.1% a dating relationship, and 7.2% were married or cohabiting. Almost of the respondents are sexually active with the partner (72.2%), with heterosexual orientation predominantly (98.9%).

### *Data collection*

Participants were informed of the aim of the study (to better understand the processes underlying intimate relationships), confidentiality was guaranteed and the researcher's contact was given to them. Then, they filled out a social-demographic questionnaire and the ECR. They also filled out two other self-report measures: *Personal and Relationships Profile* (PRP, Straus, Hamby, Boney-McCoy, Sugarman, 1999, Paiva & Figueiredo, 2006) and *Attitudes about Significant Relationships* (ASR, Henry, 1995; Paiva & Figueiredo, 2003). These two measures intend to demonstrate the construct validity of ECR (Campbell & Fiske, 1959), evaluating along with it some constructs that theoretically are associated with attachment dimensions, that is, the quality and attitudes with intimate relationships. To accomplish this aim the following analysis are performed: 1. Correlates of anxiety and avoidance and characteristics of the relationship (existence, type, duration, terminus, presence of a sexual component); 2. Correlates of anxiety, avoidance and variables of the relationship (conflict, communication problems, dominance, jealous, commitment and relationship distress); 3. Main predictors of anxiety and avoidance; and 4. Norms and reference group criteria based on the quality of intimate relationship.

The procedure occurred during the school period 45-60 minutes, in different classes in public and private universities in the North of Portugal, excluding psychology courses.

### *Data analysis*

SPSS 17.0 and AMOS 17.0 were used for the computation of the data. The internal validity of the instrument was tested through a Confirmatory Factor Analysis (CFA) added by a Principal Components Analysis (PCA).

According with theoretical frame supporting the ECR, it was performed a confirmatory factor analysis, to test the hypothesis of the underlying constructs of anxiety and avoidance (see Brennan et al., 1998, for a review), and confirm their orthogonal bi-dimensionality.

We realized a PCA to establish the number of latent constructs that better explain the relationship of the variables in analysis and its underlying factor structure. To obtain the factorial matrix we applied an oblique rotation (*oblimin*)<sup>7</sup>.

For the internal consistency it was considered the coefficient Cronbach's alpha. The descriptive statistics for each item, and the mean differences attending to the gender as tested through t test for independent samples. The computation of criteria validity as performed between ECR dimensions and the different categories of social-demographics by *one-way* ANOVA, applying the criteria post-*hoc* Bonferroni. Pearson correlation was performed for test the association of ECR dimensions with other external criteria (PRP), and the linear regression (*stepwise* method) for the ASR scales was also performed.

## Results

### *Internal validity*

*Confirmatory factor analysis.* A confirmatory factor analysis using a Maximum Likelihood Estimation Method in AMOS (version 17.0) was performed to test the model. An adequate model fit is found for the tested model ( $\chi^2(593)=2605.614, p<.001$ ; RMSEA=.078, 90% CI [.075-.081]; *cut-off value* <.80). RMSEA index is considered an adequate index to test goodness of fit of the model (Raykov, 1998; Rigdon, 1996), especially with large sample sizes. We also tested a second model, considering the 36 items in each attachment dimension as considered by the authors, adding a constraint of original model, permitting the correlation of two factors, resulting in a slight improvement. So we consider the orthogonality of attachment dimensions, as the authors of original ECR defended.

Determined the adjustment of the theoretical model to the data, we had performed an exploratory factor analysis to test the internal validity of the instrument, the PCA.

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<sup>7</sup> Despite the theoretical considerations presented by Brennan and col. (1998) in the original version of ECR, concerning the independence of two ECR dimensions, we used an oblique rotation (allowing the correlation of factors), following the same procedure as these authors in the original version (opcit) and by others that had adapted the same instrument in different cultures (e.g., Alonso-Arbiol et al., 2007; Picardi et al., 2000). Other revisions of ECR suggest an oblique structure for anxiety and avoidance dimensions (Wei, Russel, Mallinckrodt, & Vogel, 2007). Also reinforcing this rotation procedure, a recent meta-analytic study, which considered 244 studies, stated the correlation between anxiety and avoidance ranged from -.36 to .68, and noticing the inconsistencies observed in orthogonal dimensionality of attachment for heterogeneous cultures and contexts (see Finnegan & Cameron, 2009, for a review).

*Principal components analysis.* The 36 ECR's items were submitted to PCA. The value of Kaiser-Meyer-Okin is .888, and the value of Bartlett's sphericity test= $(\chi^2(630)= 5912.115, p=.000)$  obtained a significant statistical value strengthening the factorability of the correlation matrix.

The presence of 8 components which exceeded the *eigenvalue* 1 (the first two with values 6.9 and 5.6 respectively, and the rest with values ranging between 1.7 and 1.0), explaining 56.6% of the total variance. An inspection of the *screeplot* reveals an accentuated cut after the second component, that added to the obtained analysis considering the scree test of Catell, reinforces the retention of the 2 components<sup>8</sup>, to which was applied the *oblimin* rotation as the same way as the original version, since recent research has shown that the attachment dimensions may be significantly correlated (e.g., Finnegan & Cameron, 2009; Wei et al., 2007).

The rotated solution (as we can see in table 2) shows a concise structure with strong saturations and high communalities values ( $h^2$ ), congruent with the theoretical rational underlying the original scale. It explains 34.8% of the total variance, with the first component contributing with 19.1% and the second with 15.7% of the total variance. On the other hand, as was theoretically expected, the two components do not correlate strongly among themselves; the value of the correlation between each other is only .06, despite the oblique rotation, suggesting that the two dimensions are essentially orthogonal (Brennan et al., 1998). When the correlation value of factors is reduced, the differences between orthogonal and oblique rotation procedures are also insignificant, so the generalizability of the results is assured (Rennie, 1997).

The Table 2 also shows that for each item, the values of the communalities and the saturation, also for each component the explained variance and the coefficient Cronbach's alpha.

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<sup>8</sup> Parallel analysis criteria for the number of main components indicate the possibility of retaining 4 factors based on empirical and randomized eigenvalues (first randomized value  $1.6 < \text{empirical value } 1.7$ ; second randomized value  $1.5 < 1.6$ ) computed through RanEigen program (Enzmann, 1997). However, we opted for the retention of 2 factors, based on theoretical and methodological (statistical) reasons, which we will refer later in this article. Forcing the PCA to three factors, the third factor will be composed exclusively with items 21 and 29, independent of other overall ECR constructs (low communalities, see Table 2), adding by the fact that in other ECR validation studies they are described as problematic (see Alonso-Airbirol et al., 2007; Conradi, Gerlsma, van Duijn, & de Jonge, 2006; Picardi et al., 2000; for overviews).

Despite structural similarities with the original version, we point out some variations in the composite of the items that constitute each of the dimensions, as we will analyse in the next section.

Table 2. Factor structure, communalities and correlation item-total scale

Item N <sup>er</sup>	Component		$h^2$	Total scale	
	<i>1- Avoidance</i>	<i>2- Anxiety</i>		<i>Item total r</i>	<i><math>\alpha</math> if deleted</i>
11	.682	.275	.522	.595	.843
27	-.674	.147	.488	.353	.849
13	.662	.246	.483	.567	.844
5	.657	.151	.446	.508	.846
15	-.656	.141	.461	.339	.850
25	-.650	.143	.454	.336	.850
17	.640	.118	.417	.461	.847
33	-.553	.300	.414	.177	.853
9	.550	.085	.306	.403	.848
19	-.550	.028	.306	.324	.850
23	.533	-.031	.287	.310	.850
7	.529	.242	.326	.485	.846
26	.526	.332	.370	.517	.845
35	-.521	.402	.456	.122	.854
12	.520	.427	.430	.578	.844
16	.512	.405	.406	.547	.845
1	.505	.063	.257	.369	.849
20	.473	.404	.368	.510	.845
31	-.470	.206	.274	.189	.853
3	-.455	.028	.209	.273	.851
2	.014	.673	.454	.399	.848
32	-.025	.634	.405	.347	.849
30	-.021	.630	.400	.330	.850
14	.037	.605	.366	.354	.849
8	-.142	.605	.396	.255	.852
36	.024	.597	.356	.321	.850
24	-.025	.596	.358	.316	.850
34	.110	.581	.344	.390	.848
18	.103	.528	.285	.356	.849
6	.115	.522	.280	.399	.848
22	.024	-.510	.262	.268	.851
10	-.098	.504	.270	.235	.852
28	.239	.494	.290	.421	.847
4	-.321	.439	.311	.032	.856
29	.047	.253	.065	.126	.855
21	-.033	-.083	.008	.0801	.860
<i>Eigenvalue</i>	6.86	5.84			
<i>% p<sup>2</sup></i>	19.14	15.7		34.8	

*Differences with the original version.* Considering the avoidance and the anxiety dimensions, almost all the discriminated items in the original version saturate preferably in the respective component (see Table 2). Nevertheless, the items 12, 16, 20 and 26 conceptually considered items of anxiety, revealed high saturation values in both dimensions, despite its aggregation mostly being directed at avoidance dimension. As a way, if they are conceptually considered as anxiety items (as it was positioned by the original version authors), it is quite reasonable to group them as anxiety items.

The items, 21 and 29 conceptually belonging to avoidance scale, saturated more in anxiety dimension, however with reduced values. When exploring the number of adequate factors, forcing the PCA to three factors<sup>9</sup>, the third factor will be composed exclusively with items 21 and 29, independent of other overall ECR constructs (very low communalities, see Table 2). Moreover, these same items are also described in other ECR validation studies as problematic (see Alonso-Arbiol et al., 2007; Conradi et al., 2006; Picardi et al., 2000; for overviews), for that reason, we consider that it was preferable to removing them.

An important note should also be made concerning item 21 and 29, in addition to their reduced saturation values, its inversion seems to reflect more the comfort than the discomfort with the dependency.

#### *Fidelity: Internal Consistency*

Concerning fidelity, the total scale and the sub-scales present high internal consistency values. The total scale composed by 34 items has a value of  $\alpha=.86$  and the sub-scales anxiety (18 items)  $\alpha=.86$  and avoidance (16 items)  $\alpha=.88$  (see Table 2).

*Correlation inter-dimensions.* The correlation between the anxiety and avoidance scales for the total sample, although statistically significant is reduced ( $r(521)=.179$ ,  $p<.001$ ). Conversely, the correlation between each of the dimensions and

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<sup>9</sup> When a more detailed analysis was done on the factorial structure enforcing it to a 3 component, items 21 and 29 grouped separately from the others and exclusively on a third component, explaining only 4.7% of the variance, and presenting a value of internal consistency of .45, and saturation values respectively .554 e -.607 considering the reduced variance explained by this possible third factor, we decided to maintain the bi-dimensional original structure and remove items 21 and 29 of the analysis. Besides, alpha increases with this removal and these items don't evaluate the dimensions that they are designated theoretically.



the total scale (ECR) is high and statistically significant, as for the anxiety sub-scale ( $r(521)=.795, p<.001$ ) as for the avoidance sub-scale ( $r(521)=.744, p<.001$ ).

*Normative values and gender differences.* Table 3 presents the normative values for the items, the total scale, and the sub-scales for the studied sample according to gender. Half of the ECR's items showed significant gender differences. For anxiety 8/18 items had significant differences: items 2, 4, 14, 18, 22, 32 higher for women than for men; and items 6, 26 higher for men than women. For avoidance 11/16 items suggested gender differences: items 13, 5, 7, 3 higher for women and items 1, 27, 33, 35, 31 higher for men.

Considering the total sub-scales, there are significant differences only for anxiety; women reported it more than men. For avoidance, there are no significant gender differences; however men predominantly have a higher mean than women. In general the values found are clearly higher in the items of anxiety *versus* avoidance independently of the gender.

*External validity:* to demonstrate the construct validity of ECR the evaluated differences were correlated with other variables which should be theoretically associated (Campbell & Fiske, 1959). The characteristics were considered along with, the quality, and the attitudes with the intimate relationship. For the total scale, there are no significant gender differences.

#### *External validity*

To demonstrate the ECR's construct validity the evaluated dimensions by the instrument were correlated with other variables with which are theoretically associated (Campbell & Fiske, 1959). We considered the characteristics, the quality and the attitudes in intimate relationships.

*1. Correlates of anxiety and avoidance and characteristics of the intimate relationship: existence, type, duration, terminus, presence of a sexual component.*

The variance analysis (one-way ANOVA) considering the *status of the relationship* (have currently, had in the past, never had an intimate relationship) recognize significant statistical differences [ $F(2, 510)=81.39, p=.000$ ], by the

Bonferroni *post-hoc* analysis we can see the differences are specifically among the categories “never had” (M=3.57, SD=.74) and: “have currently” (M=2.45, SD=.74; dif. M=1.2, SD=.12, p=.000), “had in the past” (M=3.17, SD=.79; dif. M=.42, SD=.13, p=.004); those whom never had a relationship showed higher avoidance values than those who have currently or had in the past.

Table 3. Descriptives, correlation item-total and alpha Cronbach for ECR items and scales

	Item	Total M(SD)	P		Men M(SD)	Women M(SD)	t (gl)	r item total	$\alpha$ if delete d.
			20	80					
Anxiety	2	4.69 (1.81)	3	7	4.44(1.87)	4.85(1.75)	-2.53*(515)	.61	.85
	4	5.67 (1.49)	5	7	5.44(1.54)	5.81(1.43)	-2.81** (512)	.34	.86
	6	4.09(1.75)	2	6	3.82(1.76)	4.27(1.73)	-2.85** (512)	.48	.86
	8	4.83(1.82)	3	7	4.63(1.87)	4.95(1.78)	-1.95 (509)	.52	.85
	10	5.24(1.76)	4	7	5.06(1.74)	5.35(1.76)	-1.87 (509)	.43	.86
	12	2.78(1.53)	1	4	2.77(1.44)	2.77(1.59)	.02 (464)	.44	.86
	14	4.50(1.89)	3	7	4.12(1.96)	4.76(1.80)	-3.75** (513)	.52	.85
	16	2.91(1.56)	1	4	3.04(1.58)	2.82(1.54)	1.61 (511)	.42	.86
	18	4.18(1.83)	2	6	3.67(1.70)	4.51(1.84)	-5.21** (510)	.45	.86
	20	3.06(1.67)	1	4	2.99(1.51)	3.11(1.76)	-.80 (475)	.40	.86
	22r	4.80(1.67)	4	6	4.56(1.76)	4.96(1.60)	-2.58* (390)	.45	.86
	24	4.14(1.71)	3	6	4.09(1.63)	4.19(1.76)	-.61 (507)	.53	.85
	26	2.91(1.57)	1	4	3.17(1.51)	2.74(1.58)	3.05** (505)	.35	.86
	28	3.60(1.79)	2	5	3.48(1.70)	3.67(1.85)	-1.21 (508)	.44	.86
	30	4.27(1.65)	3	6	4.23(1.62)	4.27(1.67)	-.266 (507)	.53	.85
	32	4.46(1.59)	3	6	4.25(1.54)	4.59(1.62)	-2.35* (507)	.56	.85
	34	4.10(1.54)	3	5	3.97(1.51)	4.17(1.56)	-1.46 (509)	.50	.86
	36	4.29(1.72)	3	6	4.17(1.69)	4.35(1.75)	-1.15 (506)	.52	.85
	Total	4.15(.94)	3.4	4.9	4.00(.90)	4.25(.95)	-2.99* (517)	$\alpha = .86$	
Avoidance	1	2.58(1.57)	1	4	2.88(1.60)	2.37(1.51)	3.67** (514)	.45	.87
	3r	3.43(1.71)	2	5	3.01(1.68)	3.69(1.67)	-4.47** (508)	.42	.87
	5	2.37(1.54)	1	4	2.20(1.38)	2.48(1.62)	-2.06* (481)	.61	.87
	7	2.93(1.73)	1	4	2.55(1.55)	3.16(1.80)	-4.05** (479)	.48	.87
	9	3.10(1.78)	1	5	3.18(1.74)	3.04(1.79)	.87 (513)	.49	.87
	11	2.61(1.63)	1	4	2.59(1.55)	2.62(1.69)	-.19 (508)	.61	.87
	13	2.58(1.61)	1	4	2.34(1.49)	2.72(1.66)	-2.69** (468)	.59	.87
	15r	2.70(1.68)	1	4	2.81(1.70)	2.62(1.66)	1.29 (506)	.60	.87
	17	2.50(1.58)	1	4	2.43(1.47)	2.53(1.65)	-.72 (507)	.57	.87
	19r	3.14(1.62)	1	4	3.13(1.58)	3.14(1.65)	-.10 (504)	.44	.87
	23	2.89(1.52)	1	4	2.86(1.45)	2.89(1.55)	-.23 (506)	.49	.87
	25r	2.60(1.50)	1	4	2.73(1.54)	2.52(1.46)	1.53 (506)	.60	.87
	27r	2.34(1.44)	1	3	2.54(1.45)	2.21(1.42)	2.53* (506)	.63	.87
	31r	2.60(1.50)	1	4	3.02(1.50)	2.33(1.43)	5.19** (507)	.40	.88
	33r	2.04(1.27)	1	3	2.26(1.32)	1.89(1.21)	3.26** (505)	.49	.87
	35r	2.40(1.41)	1	4	2.67(1.42)	2.22(1.37)	3.56** (505)	.47	.87
	Total	2.67(.95)	2	3.6	.269(.90)	2.66(.98)	.387 (516)	$\alpha = .88$	
Total		3.46(.74)	2.9	4.0	3.38(.70)	3.50(.78)	-1.80 (518)	$\alpha = .86$	

\* p<.05 \*\* p<.01 r= reverted item

Considering the *type of relationship*, there are significant differences for avoidance dimension ( $F(3, 430)=7.55, p=.000$ ). The Bonferroni *post-hoc* analysis reported that these differences happened specifically among the categories “no commitment” ( $M=3.28, SD=.72$ ) and “dating” ( $M=2.61, SD=.79$ ; dif.  $M=.67, SD=.14, p=.000$ ), “married” ( $M=2.56, SD=.94$ ; dif.  $M=.69, SD=.21, p=.005$ ), and “cohabiting” ( $M=2.62, SD=1.33$ ; dif.  $M=1.17, SD=.42, p=.035$ ); the participants with a no commitment relationship had higher avoidance values, than all the other types of marital status.

In terms of the *duration of the relationship*, the groups differed significantly regarding the mean of avoidance [ $F(7, 447)=9.04, p=.000$ ]. The analysis of the differences between the groups point them out in the categories “less than 1 month” ( $M=3.39, SD=.89$ ) and: “6 to 11 months” ( $M=2.57, SD=.72$ ; dif.  $M=.82, SD=.22, p=.008$ ), “more than 1 and less than 2 years” ( $M=2.50, SD=.72$ ; dif.  $M=.89, SD=.21, p=.000$ ), “more than 2 years” ( $M=2.48, SD=.80$ ; dif.  $M=.91, SD=.20, p=.000$ ); the individuals with a relationship with a length inferior to 1 month reported higher values of avoidance, than all the other reported duration categories.

For the time since the break-up of the relationship, there are also significant differences for the avoidance dimensions [ $F(7,431)=13.67, p=.000$ ], mainly between the categories “not ended” ( $M=2.43, SD=.73$ ) and: “ended 2 months ago” ( $M=3.20, SD=.89$ ; dif.  $M=-.77, SD=.22, p=.018$ ), “ended 6-11 months ago” ( $M=3.01, SD=.66$ ; dif.  $M=-.62, SD=.18, p=.023$ ), “ended approximately 1 year ago” ( $M=3.22, SD=.69$ ; dif.  $M=-.79, SD=.20, p=.003$ ) and “ended more than 1 year ago” ( $M=3.31, SD=.89$ ; dif.  $M=-.88, SD=.11, p=.000$ ); the participants that ended the relationship presented higher values of avoidance, than those who did not break up.

Considering the *presence of a sexual component* in the intimate relationship, we found significant differences only for avoidance. The analysis of mean differences between groups with and without the sexual element in the relationship reveals significant differences either for avoidance ( $t(449)=6.66, p=.000$ ) as for anxiety ( $t(448)=2.069, p=.039$ ). The subjects that considered to have a sexual component in their relationship present lower values of anxiety ( $M=4.26, SD=.925$  vs  $M=4.06, SD=.94$ ) and avoidance ( $M=2.99, SD=1.03$  vs  $M=2.40, SD=.810$ ), compared with those who don't have sexual relations with the partner.

*2. Correlates of anxiety, avoidance and variables of the relationship (PRP): conflict, communication problems, dominance, jealous, commitment and relationship distress.*

The association of the dimensions evaluated by ECR within external criteria was equally determined. For this purpose, it was considered the concurrent reports in the following dimensions of the intimate relationships: conflict ( $\alpha=.76$ ), communication problems ( $\alpha=.50$ ), dominance ( $\alpha=.63$ ), relationship distress ( $\alpha=.84$ ) (for a more detailed description of these scales of PRP in Portuguese see Paiva & Figueiredo, 2006), wishes ( $\alpha=.86$ ), fears ( $\alpha=.58$ ) and power tactics ( $\alpha=.80$ ) (for a full description of the Portuguese version of ASR, see Paiva & Figueiredo, 2003).

As we can see in Table 4, both attachment dimensions of ECR are significantly positively correlated with the relational scales of PRP: conflict, communication problems, dominance and relationship distress. An increase in anxiety or avoidance is associated with higher conflict, more communication problems, more dominance over the partner, and more relationship distress. Even though the values of the correlation raise the statistical significant criteria for both dimension, there is a clear strong association between avoidance and the indicators of dysfunction of the relationship. Moreover, anxiety dimension is significantly and positively correlated with jealous scale and avoidance is negatively correlated with commitment. These results seems to also confirm the literature reports (Brennan et al., 1998; Collins & Read, 1990; Hazan & Shaver, 1987, Lafontaine, & Lussier, 2003; Picardi et al., 2000; Simpson, 1990) and seems to certify the validity of construct for the two dimensions of attachment evaluated by this version of ECR.

Table 4. Bivariate correlation for attachment (ECR) and relationship scales (PRP)

PRP		ECR	
		Anxiety	Avoidance
	<i>Conflict</i>	.271 (**)	.361 (**)
	<i>Communication problems</i>	.264 (**)	.410 (**)
	<i>Dominance</i>	.268 (**)	.300 (**)
	<i>Relationship distress</i>	.200 (**)	.540 (**)
	<i>Jealous</i>	.426 (**)	-.042
	<i>Commitment</i>	-.039	-.417 (**)

\*\*\*p<.001 \*\*p<.01 \*p<.05

### 3. Predictors of anxiety and avoidance

We performed a linear regression (*stepwise* method) for the different scales of ASR (*wishes*- enmeshment, protection and care *versus* differentiation and autonomy, *fears*- rejection and abandonment *versus* over-enmeshment and control, and *power tactics*- benign affiliative autonomy, protective /affiliative control, and hostile control) and each dimension of ECR, as a way to test the evaluated constructs. Table 5 showed the main 3 predictors of anxiety related to abandonment, explaining 28% of the total variance: fear of rejection and abandonment, wish of enmeshment, protection and care, and as a power tactic over the other- hostile control. Concerning the avoidance dimension, five predictors were found that explained 24% of the total variance: fear of control and over-enmeshment, fear of rejection and abandonment, and in inverted manner the desire of enmeshment, protection and care, in terms of power tactics the hostile control and the benign autonomy in inversion mode.

These results allowed strengthening the construct validity for the sub-scales of avoidance and anxiety of ECR.

Table 5. Predictors (ASR) of anxiety and avoidance (ECR)

Predictors ASR	ECR						
	B	SE- B	β	t	p	F (gl)	R2
	Anxiety						
<i>Fear of abandonment</i>	.374	.054	.361	6.907	***	40.066*** (3,312)	.278
<i>Desire of enmeshment</i>	.314	.084	.198	3.745	***		
<i>Hostile control</i> <sup>TP</sup>	.117	.049	.127	2.377	*		
	Avoidance						
<i>Fear of control</i>	.217	.078	.201	2.800	**	18.937*** (5,309)	.235
<i>Benign autonomy</i> <sup>TP</sup>	-.179	.032	-.296	-5.634	***		
<i>Fear of abandonment</i>	.143	.064	.162	2.238	*		
<i>Desire of enmeshment</i>	-.234	.075	-.174	-3.102	**		
<i>Hostile control</i> <sup>TP</sup>	.110	.044	.141	2.485	*		

<sup>TP</sup> =power tactic

#### 4. Norms and reference group criteria- quality of intimate relationship

The values presented in Table 6, constituted the norms for the studied sample comparing the two groups, with an high versus a low quality of intimate relationship with the partner. As reference values, we consider the values with a standard deviation above the mean and the percentil note (20 and 80); notwithstanding the detailed analysis of each item and its variability according with the gender.

As we can see in Table 6, there are significant differences when the groups with high and low quality of intimate relationship are compared for each ECR's items and attachment dimensions (anxiety and avoidance) with important specificities for each gender. Individuals with high quality of intimate relationship presented lower values of anxiety and avoidance and total scale scores when compared with low quality of intimate relationships' group. This result happens both for men, women and total sample, as it is shown in Table 6.

Table 6. Differences in ECR's items and scales considering participants relationship quality

Item	P20-P80	Total			P20-80	Men			t(111)	P20-80	Women		
		Quality of intimate relationship		t(293)		Quality of intimate relationship		t(180)					
		High N=145	Low N=150			High N=53	Low N=60				High N=93	Low N=90	
		M (SD)				M (SD)					M (SD)		
1	1.0-4.0	2.11 (1.48)	3.08 (1.62)	-5.358 ***	1.0-4.0	2.69 (1.80)	3.01 (1.55)	-1.008	1.0-4.0	1.78 (1.14)	3.13 (1.67)	-6.373 ***	
2	3.0-7.0	4.30 (1.91)	5.28 (1.54)	-4.835 ***	3.0-6.0	4.18 (2.12)	5.10 (1.49)	-2.664 **	4.0-7.0	4.37 (1.79)	5.41 (1.57)	-4.122 ***	
3r	1.0-5.0	3.32 (1.76)	3.50 (1.65)	-.892	1.0-4.0	2.93 (1.73)	3.01 (1.62)	-.271	2.0-5.0	3.54 (1.75)	3.82 (1.61)	-1.111	
4	5.0-7.0	5.50 (1.76)	5.75 (1.21)	-1.452	4.0-7.0	5.35 (1.79)	5.58 (1.19)	-.790	5.0-7.0	5.58 (1.75)	5.87 (1.22)	-1.283	
5	1.0-4.0	1.88 (1.25)	2.73 (1.72)	-4.785 ***	1.0-3.0	1.88 (1.28)	2.58 (1.52)	-2.613 *	1.0-4.0	1.89 (1.24)	2.83 (1.85)	-4.030 ***	
6	2.0-6.0	3.68 (1.80)	4.55 (1.61)	-4.368 ***	2.0-5.0	3.37 (1.72)	4.33 (1.55)	-3.096 **	2.4-6.0	3.85 (1.84)	4.70 (1.64)	-3.246 **	
7	1.0-4.0	2.65 (1.63)	3.04 (1.78)	-1.963 *	1.0-4.0	2.41 (1.61)	2.76 (1.70)	-1.124	1.0-5.0	2.79 (1.64)	3.23 (1.81)	-1.711 †	
8	3.0-7.0	4.60 (1.95)	5.25 (1.57)	-3.117 **	3.0-7.0	4.46 (1.94)	5.18(1.64)	-2.133 *	4.0-7.0	4.69 (1.96)	5.30 (1.53)	-2.313 *	
9	1.0-4.0	2.57 (1.55)	3.44 (1.76)	-4.467 ***	1.0-5.0	2.60 (1.62)	3.60 (1.68)	-3.188 **	1.0-4.0	2.56 (1.52)	3.34(1.81)	-3.132 **	
10	4.0-7.0	5.10 (1.92)	5.54 (1.51)	-2.152 *	4.0-7.0	5.05 (1.88)	5.38 (1.51)	-.807	4.0-7.0	5.13 (1.96)	5.68 (1.51)	-2.138 *	
11	1.0-4.0	2.09 (1.33)	3.00 (1.71)	-5.062 ***	1.0-4.0	2.19 (1.38)	2.83 (1.60)	-2.225*	1.0-4.0	2.03 (1.30)	3.11 (1.77)	-4.675 ***	
12	1.0-4.0	2.44 (1.48)	3.17 (1.60)	-4.091 ***	1.0-4.0	2.69 (1.42)	3.06 (1.49)	-1.335	1.0-4.0	2.28 (1.50)	3.25 (1.67)	-4.071 ***	
13	1.0-4.0	2.16 (1.42)	2.84 (1.55)	-3.910 ***	1.0-4.0	2.33 (1.54)	2.58 (1.56)	-.831	1.0-4.0	2.06 (1.35)	3.02 (1.53)	-4.457 ***	
14	3.0-7.0	4.21 (1.86)	4.70 (1.83)	-2.268 *	2.0-6.0	3.86 (1.98)	4.54 (1.94)	-1.755 †	4.0-7.0	4.41 (1.77)	4.83 (1.76)	-1.573	
15r	1.0-4.0	2.36 (1.67)	2.94 (1.62)	-3.029 **	1.0-4.0	2.67 (1.82)	2.90 (1.61)	-.682	1.0-4.0	2.18 (1.56)	2.97 (1.63)	-3.347 **	
16	1.0-4.0	2.43 (1.41)	3.40 (1.55)	-5.564 ***	1.0-4.0	2.54 (1.44)	3.70 (1.57)	-4.029 ***	1.0-4.0	2.37 (1.39)	3.20 (1.52)	-3.837 ***	
17	1.0-4.0	2.04 (1.35)	2.93 (1.65)	-5.018 ***	1.0-4.0	2.09 (1.30)	2.90 (1.56)	-2.944 **	1.0-4.0	2.01 (1.39)	2.95 (1.71)	-4.040 ***	
18	3.0-6.0	3.66 (1.93)	4.76 (1.68)	-5.239 ***	2.0-5.0	3.24 (1.66)	4.26 (1.66)	-3.255 **	3.0-6.6	3.90 (2.04)	5.10 (1.61)	-4.367 ***	
19r	1.0-4.0	2.96 (1.69)	3.24 (1.58)	-1.439	1.0-4.0	3.07 (1.70)	3.08 (1.67)	-.025	1.0-4.0	2.90 (1.69)	3.33 (1.52)	-1.853+	
20	1.0-4.0	2.54 (1.60)	3.66 (1.64)	-5.885 ***	1.0-4.0	2.71 (1.52)	3.60 (1.44)	-3.177 **	1.0-5.0	2.44 (1.64)	3.70 (1.77)	-4.928 ***	
21	2.-6.0	4.16 (1.78)	4.01 (1.57)	.761	2.0-5.0	3.92 (1.67)	3.80 (1.43)	.426	3.0-6.0	4.30 (1.83)	4.16 (1.66)	.559	
22r	4.0-7.0	4.72 (1.67)	4.94 (1.50)	-1.179	3.0-6.0	4.43 (1.78)	4.78 (1.53)	-1.121	4.0-7.0	4.90 (1.59)	5.05 (1.48)	-.683	
23	1.0-4.0	2.78 (1.58)	3.01 (1.57)	-1.211	1.0-4.0	2.78 (1.53)	3.00 (1.56)	-.724	1.0-4.0	2.78 (1.62)	3.02 (1.58)	-.967	
24	3.0-6.0	3.60 (1.66)	4.77 (1.45)	-6.407 ***	3.0-6.0	3.55 (1.66)	4.58 (1.49)	-3.434 **	3.0-6.0	3.63 (1.67)	4.91 (1.41)	-5.504 ***	
25r	1.0-4.0	2.20 (1.43)	2.90 (1.47)	-4.154 ***	1.0-4.0	2.19 (1.45)	2.93 (1.49)	-2.649 **	1.0-4.0	2.20 (1.42)	2.88 (1.47)	-3.174 **	
26	1.0-4.0	2.51 (1.49)	3.30 (1.56)	-4.355 ***	1.0-4.0	2.92 (1.51)	3.55 (1.37)	-2.296 *	1.0-4.0	2.28 (1.43)	3.13 (1.67)	-3.651 ***	
27r	1.0-3.0	2.02 (1.44)	2.50 (1.37)	-2.911 **	1.0-3.0	2.21 (1.45)	2.48 (1.25)	-1.059	1.0-3.0	1.92 (1.43)	2.52 (1.45)	-2.792**	
28	2.0-5.0	3.12 (1.78)	3.91 (1.68)	-3.870 ***	1.0-4.0	2.87 (1.54)	3.86 (1.57)	-3.330 **	2.0-5.0	3.26 (1.91)	3.94 (1.76)	-2.472 *	
29r	4.0-7.0	4.96 (1.79)	4.86 (1.70)	.441	3.0-6.0	4.25 (1.70)	3.96 (1.70)	.877	4.0-7.0	5.36 (1.72)	5.47 (1.42)	-.450	
30	3.0-6.0	3.94 (1.77)	4.69 (1.49)	-3.930 ***	3.0-6.0	3.86 (1.79)	4.78 (1.40)	-3.035 **	3.0-6.0	3.98 (1.77)	4.64 (1.56)	-2.614 *	
31r	1.0-4.0	2.50 (1.72)	2.70 (1.38)	-1.137	1.0-4.0	3.11 (1.76)	2.83 (1.31)	.965	1.0-3.0	2.16 (1.60)	2.62 (1.42)	-2.074 *	
32	3.0-6.0	4.16 (1.63)	4.89 (1.40)	-4.089 ***	3.0-6.0	4.07(1.59)	4.70(1.42)	-2.180 *	4.0-6.0	4.21 (1.66)	5.03 (1.38)	-3.551 ***	
33r	1.0-3.0	1.98 (1.44)	2.19 (1.18)	-1.024	1.0-3.0	2.39 (1.60)	2.15 (1.07)	.949	1.0-3.0	1.76 (1.29)	2.14 (1.25)	-1.995 **	
34	3.0-5.0	3.78 (1.69)	4.39 (1.30)	-3.465 **	3.0-5.0	3.65 (1.54)	4.25 (1.40)	-2.135 *	3.0-5.0	3.85 (1.77)	4.49 (1.23)	-2.785 **	
35r	1.0-3.6	2.17 (1.40)	2.41 (1.33)	-1.489	1.0-4.0	2.47 (1.47)	2.43 (1.26)	.143	1.0-3.0	2.01 (1.34)	2.39 (1.37)	-1.923 *	
36	3.0-6.0	4.00 (1.91)	4.81 (1.54)	-3.983 ***	2.8-6.0	4.03 (1.82)	4.63 (1.55)	-1.865 †	3.0-6.0	3.97 (1.97)	4.93 (1.54)	-3.597 ***	
Anx.	3.4-4.9	3.82 (.90)	4.54 (.77)	-7.389 ***	3.3-4.7	3.71 (.82)	4.43 (.72)	-4.930 ***	3.5-5.0	3.88 (.94)	4.61 (.79)	-5.660 ***	
Avd.	1.9-3.4	2.53 (.82)	2.97 (.86)	-4.512 ***	2.0-3.4	2.67 (.78)	2.94 (.80)	-1.764 †	1.9-3.3	2.45 (.84)	3.00 (.90)	-4.258 ***	
Total	2.8-3.9	3.18 (.67)	3.76 (.59)	-7.824 ***	2.8-3.9	3.19 (.58)	3.68 (.50)	-4.778 ***	2.8-4.0	3.17 (.72)	3.81 (.64)	-6.256 ***	

\*\*\*p&lt;.001 \*\*p&lt;.01 \*p&lt;.05, † p=[.051, .10]

## Discussion

The comprehension of attachment in adulthood originally derived from Bowlby and Ainsworth theories had received broad attention and advances in the last 30 years. Whilst universally recognized, attachment theory permits to understand human development in adulthood, and the main processes and dynamics underlying romantic relationships. The pioneer work of Hazan and Shaver (1987), research on adult attachment has indeed flourished.

However, even though emerging from a common reference frame, the agreement concerning attachment types or dimensions had been described in different ways considering each author's theoretical inclination (Bartholomew & Shaver, 1998; Crowell, Fraley & Shaver, 2008; Feeney, 2008, for overviews). The studied version of ECR, obtained through the principal components analysis with oblique rotation (*oblimin*), revealing the presence of a concise factorial structure, composed by two components congruent with the original version for almost all the items. It presents high consistency values either for the total ( $\alpha=.86$ ) as for dimensions, the anxiety related to the abandonment ( $\alpha=.86$ ) and avoidance of the proximity ( $\alpha=.88$ ). The items 21 and 29 presented argumentative performance and lower saturations in each of the two studied dimensions, even that similar to other adaptations of the instrument (e.g., Alonso-Arbiol et al., 2007; Conradi et al., 2006; Picardi et al., 2000). This justified the possibility of its removal, a main difference with the original version. For this decision accounted methodological analysis (statistical), a PCA with 3 factors showed them aggregated together in a same factor and presented low commonalities values ( $<.30$ ). Apart from which, the reader can also utilize them, with the remark they seem to be indicative of the *(dis)comfort with the dependency of the partner*, as Collins and Read (1990) considered with the dimension "*depend*". More recently, some evidence are strengthening a three structure for attachment dimensions suggesting a better fit than the usual bi-dimensional (see Bäckström & Holmes, 2007, for a review). With awareness of this heterogeneity among studies in conceptualization of attachment dimensions, we recommend the inclusion of these items (21 and 29) in future studies, in particular transcultural ones [the value of Cronbach's alpha of the scale with 18 items remains with a high value (.85)]. Furthermore, items 12, 16, 20 and 26, although the high saturation in the theoretical corresponding dimension (anxiety) they presented high saturations in avoidance dimension. The explanation for this fact can be found in the



argument of Bartholomew (1990), regarding the distinction of the pattern dismissing and fearful, advancing for the last one a strong desire of proximity and simultaneously the avoidance for fear of rejection (which seem to justify the sharing of high saturation values for these items in both dimensions of attachment). Nowadays, some authors are questioning the orthogonal dimensionality of Bartholomew tetra-dimensional prototypes, and suggesting that models of the self and models of the other enclose different components for each of the four prototypes (see, Ross, McKim, & DiTommaso, 2006, for overviews). The dilemma of independence versus complementarity of anxiety and avoidance dimensions of attachment in adulthood has been in the scope of current literature (e.g., Finnegan & Cameron, 2009). The two sub-scales have a marginal correlation value, indicating that attachment dimensions are essentially orthogonal, also confirmed by the confirmatory factor analysis (Conradi et al., 2006).

In terms of the normative values for each sub-scale, the anxiety dimension reveals higher values than avoidance dimension (e.g., Brennan et al., 1998; Picardi et al., 2000). Considering gender, women showed higher mean values than men for anxiety, similar to what Bartholomew and Horowitz (1991) founded for preoccupied style and other authors had found considering gender differences in attachment (Picardi et al., 2000; Paiva, Figueiredo, & Henry, 2008; Ross et al., 2006).

Regarding external validity, the relationship observed between the dimensions of ECR mainly the avoidance, and the characteristics of the intimate relationship, pointed to an evidence of concurrent validity. The participants that presented high avoidance, reported more that they never had an intimate relationship, have a relationship with no commitment, of a reduced length of duration (less than 1 month), without a sexual component, or finished the relationship confirming the individual differences in intimate relationships as described in literature (Brennan et al., 1998; Feeney et al., 1994a; Feeney, 2008; Simpson, Rholes & Phillips, 1996).

In addition, confirming the external validity, attachment dimensions evaluated by ECR are associated to the quality/dysfunction of intimate relationships. As a way, the positive correlation for both the insecure attachment dimensions and the indicators of relational dysfunction (i.e., conflict, communication problems, relationship distress) and the positive correlation of the sub-scale of anxiety with the jealous scale, and the negative correlation with the sub-scale of avoidance with the commitment scale are also similar to the reported by the original version authors.

The evaluation of the main wishes, fears and power tactics underlying the intimate relationships permits adding empirical evidence to the construct validity. Consequently, how higher are the anxiety, the higher the fear of abandonment, the wish of enmeshment protection and care and the hostile control as a power tactic as predictors of anxiety related to abandonment. The higher the fear of control, the lower desire of enmeshment, protection and care and higher fear of control and the power tactics characterized by the absence of benign autonomy and the presence of hostile control configure the avoidance of the proximity. The obtained results reinforced that the sub-scale of anxiety evaluate in first place the fear of abandonment while the avoidance sub-scale the fear of control, also adding other constructs that can help explain the anxiety and the avoidance in the relationship (see also, Ross et al., 2006). For example, high control and dominance in interpersonal dynamics associated to attachment styles with high anxiety (see Bartholomew & Horowitz, 1991), seem to be evident in the straight association between this dimension and the power tactic hostile control (potentially dysfunctional, based on the dominance, threat of separation, blaming the other, etc.). The characterization of interpersonal distance and coldness underlining the patterns with high avoidance, can justify the negative relationship with the power tactic benign affiliative autonomy, that is expressed through behaviours such as calming down, listening emphatically, reinforcing the autonomy and associated to the security of attachment (see Paiva, Figueiredo, & Henry, 2008). The collected data are congruent with the literature that associates the insecure attachment to the presence of dysfunctional intimate relationships (Bartholomew & Horowitz, 1991; Brennan & Shaver, 1995; Collins & Read, 1990; Feeney, 1994; Kirkpatrick & Davis, 1994; Simpson, 1990; Simpson et al., 1996; Treboux et al., 2004).

Not questioning the internal validity of the Portuguese version of ECR, some limitations are inherent to the present study. Firstly, the age of the participants and the marital status, the great majority are young adults with a dating relationship, their position considering the intimate relationships can be different from other older age groups (Hazan & Shaver, 1987), so it is convenient to take into account this limitation for the generalization of the results. Associated with this limitation, there is a need to enlarge the sample to other age groups and marital status, as a way to confirm the obtained results. Secondly, in terms of methodology the bias associated with self report measures, namely recovering past memories. Consequently it is necessary to pair with other measures, for example the interview to test the equivalence of the constructs (e.g.,

Bartholomew & Horowitz, 1991; Crowell, Fraley & Shaver, 2008). Third, the cultural specificity related to the evaluated constructs is a relevant aspect too, despite the unquestionable universality of the two dimensions of attachment in adulthood as its orthogonal structure in many countries, including Portugal and the Southern European countries (Schmitt et al., 2004), it is important to know more about the underlying constructs of anxiety and avoidance, an issue that rises importance when some items are not well fitted in some cultural adaptations of ECR, like item 21. A valuable contribution of this study is that it encompasses a measure of wishes, fears and power tactics that may permit to understand better the underlying dimensions of anxiety and avoidance related with attachment.

Forth, also in conceptual terms, it is important to mention that the duration and the valuation of the relationships as relevant factors on the attachment study, considering the different stages of establishing a conjugal bond as it is reported by Hazan and Zeifman (1999). The determination of individual differences in attachment can also benefit in future studies to compare the responses of a person focused on a particular relationship with a partner (the more recent) or in the general romantic relationships (ever relationships), this last was considered in the original and the present version of ECR, but can also be a remark to pay attention in comparative studies.

Lastly, to add that the romantic love conceptualized as Shaver and col. (1988) described integrated three systems: attachment, sexual and experiences of care, which are not considered in the present study. So, in future studies, it might be important to include the stability of relationships and the strategies of maintenance of them.

In general, the analysis of the psychometrics characteristics of the Portuguese version of ECR is satisfactory, and allows its applicability in the study of experiences with intimate relationships in the Portuguese context.

In clinical or investigation settings the use of ECR may be a helpful tool. In clinical settings it can be used with different purposes, especially as an orientation guide for the evaluation of close relationships in their different stages and processes (establishment, maintenance and dissolution), as an element of diagnosis in marital therapy, suggesting the meaning, the origin and the processes of change of relationship problems. As a research tool, it can be valuable for understanding social networks dimensions underlying romantic relationships, accessing the self and other concepts in romantic relationships, acceding to cognitive structures that guide behaviour and

emotions with a partner, a way to guide conjugal outcomes, to understand deeply psychosocial functioning and develop more comprehensive and general models.

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